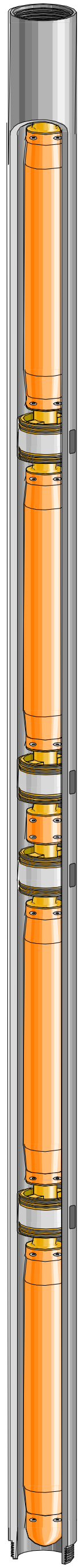
MWD / LWD OVERVIEW



3-1/8” x 3-1/2” PWR
Propogation Wave Resistivity
MWD Service

Service Benefits

- Dual transmitter borehole compensation design enhances accuracy and reliability.
- Unique patented internal antenna design.
- Sonde configuration electronics for flexibility and reliability.
- 1 Mhz transmitter frequency provides industry industry leading depth of investigation.

Operating Parameters

Maximum Flowrate:	160GPM
Maximum Operating Temperature:	150°C
Maximum Operating Pressure:	20000psi
Maximum build rate:	25°/100ft

Sensor Specifications

PWR Sub Assembly Length:	12 ft 2” (3.70 meters)	
Power Source:	High temperature Lithium Battery or Mud Turbine	
Measurement Range:	0.2 to 2000 ohm meters	
Measurement Technique:	1.0 Mhz dual transmitter dual receiver compensated phase	
Accuracy		
Phase Difference:	+/- 2%	0.2 - 20 ohm-meters
	+/- 5%	20 - 50 ohm-meters
	+/- 10%	50 - 200 ohm-meters
	+/- 20%	200 - 500 ohm-meters
	Reduced Accuracy 500 - 2000 ohm-meters	
Repeatability:	+/- 1% of reading	
Vertical Resolution:	Nominal 12 inches.	
	6 inches with deconvolution processing.	
Corrections:	Tool size, Borehole diameter and mud resistivity.	
Memory:	2Mb of non-volatile memory.	